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| ( Not for submission under 37 CFR 1.99) |

| Application Number         |       | 10566796    |  |  |
|----------------------------|-------|-------------|--|--|
| Filing Date                |       | 2006-01-31  |  |  |
| First Named Inventor Sweet |       | eney et al. |  |  |
| Art Unit                   |       | None        |  |  |
| Examiner Name              | Not A | Assigned    |  |  |
| A ( )                      |       | I           |  |  |

|                       |            |  |                              |                 | U.S.I             | PATENTS                      |  |  |   |    |
|-----------------------|------------|--|------------------------------|-----------------|-------------------|------------------------------|--|--|---|----|
| Examiner<br>Initial*  | Cite<br>No | Patent Number  | Kind<br>Code <sup>1</sup>    | Issue [         | Date              | Name of Pat<br>of cited Docu | entee or Applicant<br>ument                        | Releva   | s,Columns,Lines where<br>ant Passages or Releves<br>Appear                      |    |
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| Attorney Docket Number     |  | PENN0870US.NP |  |  |  |

| 1  | Allen et al., "Apoptosis: a mechanism contributing to remodeling of skeletal muscle in response to hindlimb unweighting", Am. J. Physiol. 1997 273 (Cell Physiol. 42): C579-C587   | × |
|----|--|---|
| 2  | Allen et al., "Myonuclear Domains in Muscle Adaptation and Disease", 1999 Muscle Nerve 22: 1350-1360   | × |
| 3  | Badalamente et al., "Delay of Muscle Degeneration and Necrosis in mdx Mice by Calpain Inhibition", 2000 Muscle Nerve 23: 106-111   | × |
| 4  | Barton-Davis et al., "Viral Mediated Expression of Insulin-Like Growth Factor I Blocks the Aging-Related Loss of<br>Skeletal Muscle Function", Proc. Natl Acad Sci USA Vol. 95, No. 26. December 22, 1998, pp. 15803-1580      | × |
| 5  | Billings et al., "Distribution of the Bowman Birk protease inhibitor in mice following oral administration", 1992, Cancer Letters 62 191-197   | × |
| 6  | Birk et al., "The Bowman-Birk inhibitor", Int. J. Peptide Protein Res. 25, 1985, 113-13  | × |
| 7  | Bodine et al., "Akt/mTOR pathway is a crucial regulator of skeletal muscle hypertrophy and can prevent muscle alrophy in vivo", Nature Cell Biology, vol. 3, November 2001, pp. 1014-1019                                      | × |
| 8  | Buetler et al., "Green Tea Extract Decreases Muscle Necrosis in mdx Mice and Protects Against Reactive Oxygen Species", Am. J. Clin. Nutr. 2002; 75:749-53   | × |
| 9  | Criswell et al., "Overexpression of IGF-I in skeletal muscle of transgenic mice does not prevent unloading-induced atrophy", Am. J. Physiol. 1998 275: E373-E379   | × |
| 10 | Goldberg et al., "Protein Turnover in Skeletal Muscle", The Journal of Biological Chemistry, Vol. 244, No. 12, 1969 pp. 3223-3229  | × |
| 11 | Gordon et al., "Plasticity in Skeletal, Cardiac, and Smooth Muscle Selected Contribution: Skeletal muscle focal adhesion kinase, paxillin, and serum response factor are loading dependent", J Appl Physiol 2001 90: 1174-1183 | × |

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|                           |  |               |  |  |

| 12 | Granchelli et al., "Cromolyn Increases Strength in Exercised MDX Mice", Research Communications in Molecular<br>Pathology and Pharmacology, Vol. 91, No. 3 March 1996 pp. 287-296                                | × |
|----|--|---|
| 13 | Hornberger et al., "Regulation of translation factors during hindlimb unloading and denervation of skeletal muscle in rats", Am. J. Physiol. 2001 281:C179-C187  | × |
| 14 | Hunter et al., "Activation of an alternative NF-kB pathway in skeletal muscle during disuse atrophy", The FASEB Journal, 2002 Vol. 16 pp. 529-538  | × |
| 15 | Ikemoto et al., "Space shuttle flight (STS-90) enhances degradation of rat myosin heavy chain in association with activation of ubiquitin-proteasome pathway", The FASEB Journal published online March 12, 2001 | × |
| 16 | Jaspers et al., "Atrophy and growth failure of rat hindlimb muscles in fail-cast suspension", The American Physiological Society, 1984 pp. 1472-1479   | × |
| 17 | Kennedy et al., "Preparation and Production of a Cancer Chemopreventative Agent, Bowman-Birk Inhibitor Concentrate", Nutr Cancer 1993 Vol. 19, No. 3, pp. 281-302  | × |
| 18 | Ann R. Kennedy, "Anticarcinogenic Activity of Protease Inhibitors", Protease Inhibitors as Cancer Chemopreventive Agents, edited by Walter Troll and Ann R. Kennedy. Plenum Press, New York, 1993                | × |
| 19 | Ann R. Kennedy, "Chemopreventative Agents: Protease Inhibitors", Pharmacol. Ther. Vol. 78, No. 3, pp. 167-209, 1998  | × |
| 20 | Larionova et al., "Inhibition of Cathepsin G and Human Granulocyte Elastase By Multiple Forms of Soybean Inhibitor of Bowman-Birk Type", Biokhimiya 1993 58:1437-1444  | × |
| 21 | Loughna et al., "Effect of Inactivity and Passive Stretch on Protein Turnover in Phasic and Postural Rat Muscles", J. Appl. Physiol. 1986 61(1) 173-179  | × |
| 22 | Mitchell et al., "A muscle Precursor Cell-Dependent Pathway Contributes to Muscle Growth After Atrophy", Am J Physiol Cell Physiol 281: C1706-C1715, 2001  | × |

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| Attorney Docket Number |       | PENN0870US.NP |  |  |

| 23 | Nikawa et al., "Effects of a Soy Protein Diet on Exercise-Induced Muscle Protein Catabolism in Rats", Nutrition 18:490-495, 2002  | × |
|----|---|---|
| 24 | Oreffo et al., "Actue effects of the Bowman-Birk protease inhibitor in mice", Toxicology, 69 (1991) 165-176   | × |
| 25 | Sangorrin et al., "Myofibril-bound Serine Protease and its Endogenous Inhibitor in Mouse: Extraction, Partial Characterization and Effect on Myofibrils", Comparative Biochemistry and Physiology Part B 131 (2002) 713-723         | × |
| 26 | Sawada et al., "Therapeutic Effect of Camostat Mesilate on Duchenne Muscular Dystrophy in mdx Mice",<br>Pharmaceutical Society of Japan, 2003, Biol. Pharm. Bull. 26(7) 1025-1027   | X |
| 27 | Solomon et al., "Importance of the ATP-Ubiquitin-Proteasome Pathway in the Degradation of Soluble and Myofibrillar<br>Proteins in Rabbit Muscle Extracts", The Journal of Biological Chemistry, 1996, Vol. 271, No. 43, 26590-26697 | X |
| 28 | Spencer et al., "Overexpression of Calpastatin Transgene in mdx Muscle Reduces Dystrophic Pathology", Human Molecular Genetics, 2002, Vol. 11, No. 21, pp. 2645-2655  | × |
| 29 | Stevenson et al., "Global Analysis of Gene Expression Patterns During Disuse Atrophy in Rat Skeletal Muscle", J. Physiol. 2003;551;33-48  | × |
| 30 | Tada et al., "Effect of Different Dietary Protein Composition on Skeletal Muscle Atrophy by Suspension Hypokinisia/<br>Hypodynamia in Rats", J. Nutr. Sci. Vitaminol. 48. 115-119, 2002   | × |
| 31 | Taillandier et al., "Coordinate Activation of Lysosomal, Ca2+-Activated and ATP-ubiquitin-dependent Proteinases in the Unweighted Rat Soleus Muscle", Biochem. J. (1996) 316, 65-72   | × |
| 32 | Tawa et al., "Inhibitors of the Proteasome Reduce the Accelerated Proteolysis in Atrophyling Rat Skeletal Muscles", J. Clin. Invest., Volume 100, Number 1, 997, pp. 197-203, 1997.   | × |
| 33 | Tidball et al., "Expression of a Calpastatin Transgene Slows Muscle Wasting and Obviates Changes in Myosin Isoform<br>Expression During Murine Muscle Disuse", J. Physiol. 2002;545;819-828   | × |

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| Examiner Name          | Not A | Assigned      |  |  |
| Attorney Docket Number |       | PENN0870US NP |  |  |

|          | 34        | Tischler et al., "Different Mechanisms of Increased Proteolysis in Atrophy Induced by Denervation or Unweighting of Rat Soleus Muscle", Metabolism, Vol. 39, No. 7, 1990: pp. 756-763             | × |
|----------|-----------|---|---|
|          | 35        | Ware et al., "Soybean Bowman-Birk Protease Inhibitor Is a Highly Effective Inhibitor of Human Mast Cell Chymase",<br>Archives of Biochemistry and Biophysics, Vol. 344, No. 1, pp. 133-138, 1997  | × |
|          | 36        | Yavelow et al., "Nanomolar Concentrations of Bowman-Blirk Soybean Protease Inhibitor Suppress x-ray-induced<br>Transformation in Vitro", Proc. Natl. Acad. Sci. USA, Vol. 82, pp. 5395-5399, 1985 | × |
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| Art Unit                  |       | None           |   |  |
| xaminer Name              | Not A | Assigned       |   |  |
| Attorney Docket Number    |       | PENNOSZOLIS NP | _ |  |

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OR

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### SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

|                            | Signature  | //Kathleen A. Tyrrell// | Date (YYYY-MM-DD)   | 2007-04-17 |
|----------------------------|------------|-------------------------|---------------------|------------|
| Registration Number 38,350 | Name/Print | Kathleen A. Tyrrell     | Registration Number | 38,350     |

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